



UKOPA Members Meeting

PIWG Update – September
2019

Tim Rudd

Overview

- Key work areas 2019-2020:
 - AC Corrosion
 - DC Corrosion
 - Epoxy Sleeve Repairs
 - Non-Piggable Pipelines – Failure rate study
 - TD1 –Affirmation of MOP
 - Sleeves
 - Temporary Repairs
 - Weld Quality

AC and DC Corrosion

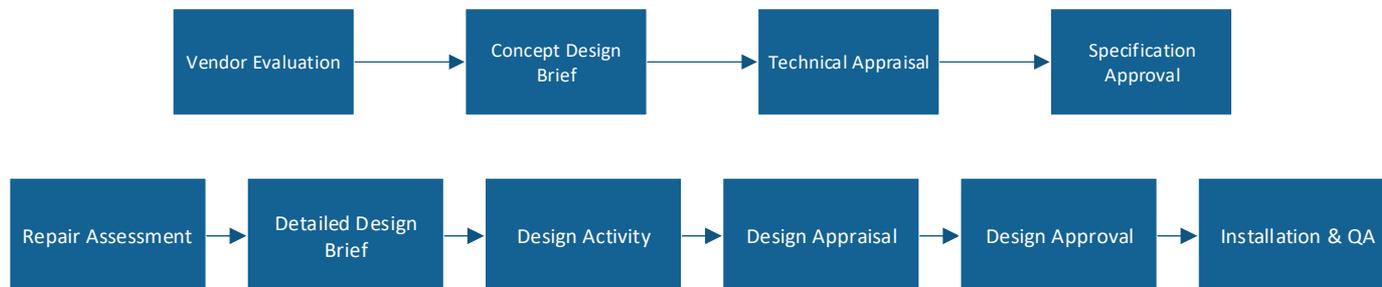
- AC Technical briefing note compiled by Pat Lydon
 - Internal review completed, with governance for issuing as a TBC
- Follow-on work underway on DC corrosion
 - Similar remit, holistic assessment of guidance and standards available on DC corrosion
 - Acts as a 'signposting document' highlighting relevant legislation, standards etc.
 - Includes summary tables, recommended actions etc.
 - Final draft in preparation, anticipate receiving final version late Q4 2019/early Q1 2020
 - Due to size of document likely to be late 2020 before final issue as TBN
- Detailed, comprehensive guidance
 - Please advise if you would like to be involved in review process
- Key facts to consider
 - Power Lines (AC corrosion)
 - Rail crossings (can be DC)
 - Variation in loading/balance between power cables – just because OK at time of testing doesn't mean always OK!

Decommissioning or Abandoning Pipelines

- Potential project under evaluation for 2020
- Scope is to produce a TBN on Decommissioning or Abandoning Pipelines
 - NOT prescriptive – UKOPA cannot highlight any as ‘Best Practise’
- Intent of document is to highlight issues that need considering when evaluating end-of-life treatment of pipelines
 - Legal framework
 - Easement issues
 - Long-term integrity of pipeline and land
 - Potential abandonment or decommissioning options available
 - Notifications/engagement with stakeholders
 - Interactions with other utilities etc.
- Project currently being scoped – please feed back any thoughts on value of such a document and preferred contents

Epoxy Sleeve Repairs

- UKOPA have identified that the management of these techniques requires specific guidance for their design and use, as existing industry recommendations for design of Type A sleeves does not cover the extended hybrid repair scope.
- The approach is to define a process where the company (operator) and the repair vendor develop a common technical understanding in a specification that can provide a repair vendor and competent company engineer with sufficient information to design and approve a repair scenario.
- A two-stage approach has been developed covering qualification of a repair method during a concept stage, then the detailed design performed for each specific application.
- Drafts of final documents submitted by Rosen, meeting at 13:30 today for group review and feedback. Anticipate closing out project by early Q1 2020.

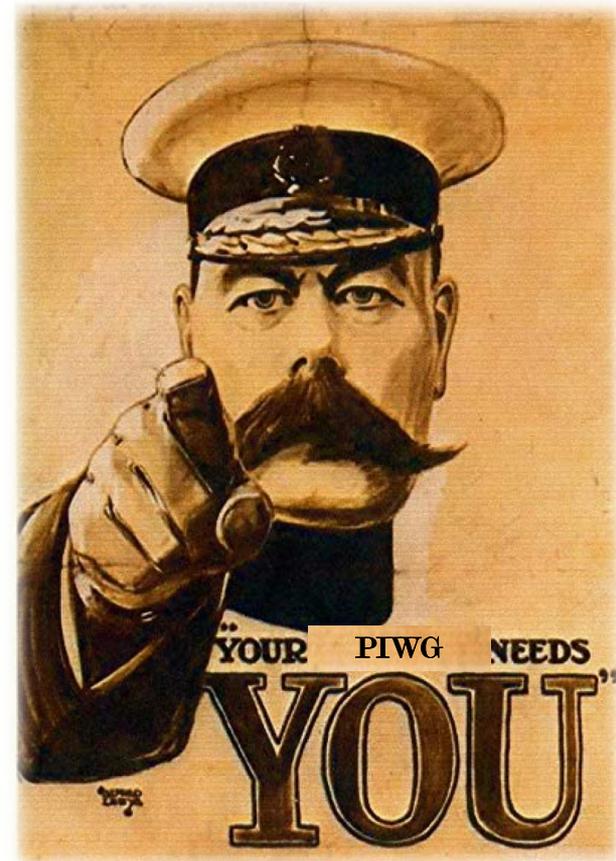


Non-Piggable Pipelines - Failure Rate Study

- New project proposed for 2020 – evaluating failure rates in piggable vs non-piggable pipelines
- PIWG managed project, supported by PIE
- Anticipate completion of study and draft of TBN in 2020
- Project proposed to support the justification for changing the TD/1 and PD 8010 requirements for MOP/MAOP affirmation
 - Intent is to avoid requirement to briefly raise MAOP to within 7 bar of declared MAOP
 - Current practise is felt to have little practical benefit in enhancing integrity.
- The study required is an investigation of the incidence of unreported external interference recorded in the UKOPA data base, and a study on the effect this has on the pipeline probability of failure.
 - Failure rates – piggable vs unpiggable
 - Tolerable risk – how long can an unpiggable pipeline be and still have a tolerable risk of failure?
- Will feed into revision of IGEM TD/1 Ed 6
 - Study intended to provide additional justification on failure rates, enabling the team to justify removing the “raise to within 7 bar of the declared MOP” requirement currently present.
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Pipeline Sleeves

- Ongoing study into effect of sleeves on corrosion behaviour of defects beneath them
 - Is there a higher incidence of defects?
 - Do they behave differently?
 - Does it affect pipeline adjacent to sleeves?
- Preliminary work done by PIE
 - Tool developed to import ILI data and extract sleeve information
 - # of sleeves per line, length, frequency of defects inside/outside etc.
- To continue with study we need more responses
 - Please provide ILI reports (anonymised) to PIWG for inclusion in study
 - Sleeve tool can extract data automatically so is not onerous
- Without higher operator take-up we cannot extract meaningful data from it
- Pending Operator buy-in data extraction can be completed by Q1 2020 with report and TBY completed during remainder of 2020.



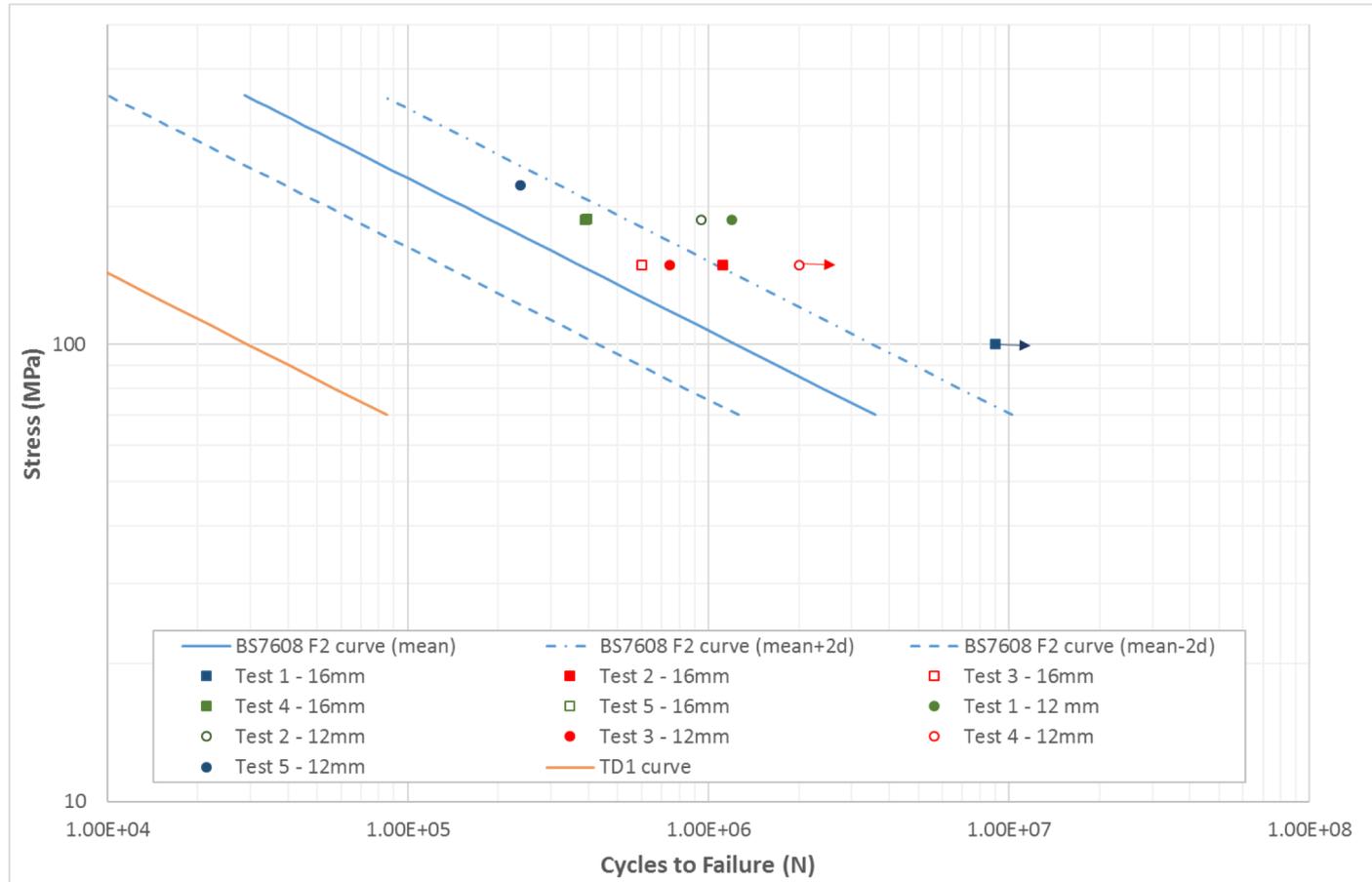
Temporary Repairs

- PIWG looking to develop guidance document for use and applicability of temporary repairs
- Study circulated to evaluate types of repairs in use, assessment procedure used, lifetime expectation etc.
- Summary report to be produced by PIE, after this potential options to develop applicable guidance will be developed
- Potential synergies with other industry guidance
 - EEMUA have active Working Group on temporary repairs
- Any personnel interested in assisting in this study please contact Tim Rudd or Richard Price.

Weld Quality

- Phase 1 of project completed in 2019
 - Project report to be updated by Q1 2020 and communicated to UKOPA members
- Original data-set expanded based on samples provided by ATCO
 - Very similar results found in both Canadian and UK pipelines
- Fatigue studies completed by Strathclyde University (Julia Race) and Swansea University (Joe York-Fisher)
- Key findings:
 - Fatigue Performance of vintage girth welds could be evaluated using BS7608 F-Curve (giving conservative results)
 - Mechanical properties of vintage girth welds are generally acceptable, even with the presence of defects outside those allowable in current codes
- PIWG plan to present this work in conjunction with ATCO
 - Houston and Calgary
- Phase 2 works planned for 2020
 - Expansion of dataset using additional samples from oil and liquid operators
 - HS2 diversions provides potential for more cut-outs (pre-1972 girth welds)
- Potential for additional collaboration with Swansea university
 - Further studies of fatigue performance proposed

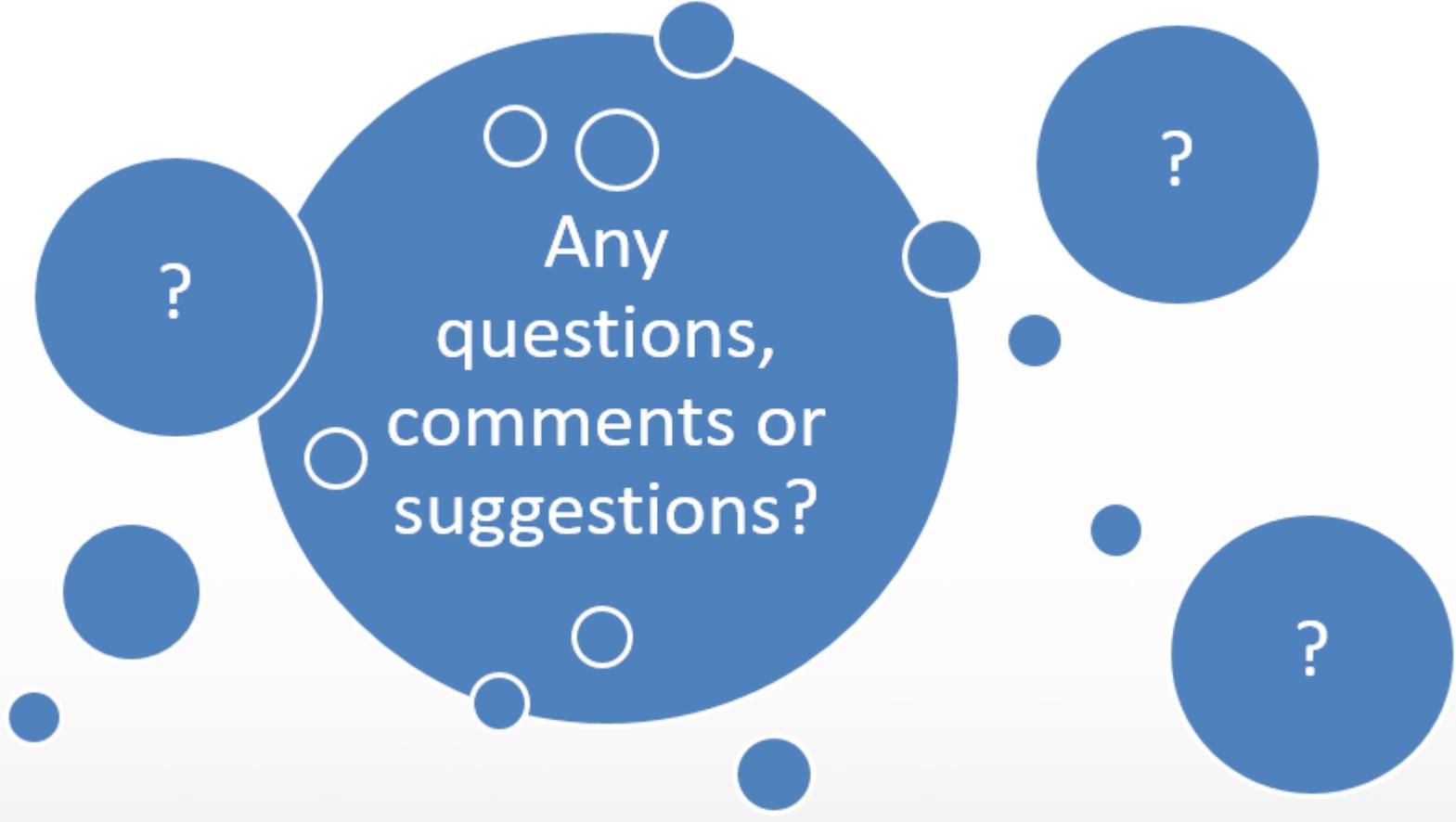
Fatigue performance of Vintage Girth Welds



Key points for Operators

- Please submit any data (ILI reports) on Pipelines containing Sleeve's to PIWG by end of November
 - This will allow collation of a larger data set, allowing conclusions to be drawn about the effect of sleeves on the behaviour of defects beneath them
 - Sleeve tool available for use – please email secretariat for a copy
- Weld Quality – please keep cut-outs of any girth welds (particularly those containing defects) for pre-1972 pipelines
 - Ideal sample length is at least 300mm either side of the weld
 - Samples can be stored at PMC ambergate
 - If no known defects, a single sample per cut-out segment is all that is required
- Epoxy Repair Guidance – review meeting with ROSEN after lunch
 - If any additional members are interested in participating in review please contact Tim Rudd, Gary Senior or John Ferrari

Questions



Any
questions,
comments or
suggestions?